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NOTES ON THE FEEDING HABITS OF BURROWING BUGS OF THE GENUS *ADRISA* (HETEROPTERA: CYDNIDAE)

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Abstract

Two species of Cydnidae, *Adrisa atra* Dallas and *A. erichsoni* Signoret, are recorded feeding on seeds of *Acacia* Mill. (Mimosaceae) for the first time.

Woodward, Evans and Eastop (1970) note that little is known of the habits of the Australian Cydnidae but "many are probably root feeders". Miller (1971) states that the food of the family is mainly the roots of plants and animal matter. Exceptions to the root feeding habit are species of the northern hemisphere genus *Sehirus* Amyot & Serville which feed on stems and seeds of plants of the family Labiatae (Woodward, 1949; Southwood and Hine, 1950; McDonald, 1968). Facultative blood sucking has been noted in *Geotomus pygmaeus* Dallas (Miller, 1971).

About 11 pm on 29 January 1983 adult specimens of *Adrisa atra* Dallas (family Cydnidae) were found in the litter under a planted *Acacia* tree 5 km south-east of Yanakie, Victoria. This was during a period of severe drought, the ground being very dry with little new vegetative growth. One of the bugs had its rostrum inserted in the hilum of the seed of the *Acacia.* The bug carried the seed with its rostrum still inserted and apparently by holding the seed with its mid legs. After about 20-30 s the insect disengaged its rostrum. The *Acacia* has not been positively identified but was probably *A. retinodes* Schlechtendal.

On 3 February 1983 a female *Adrisa erichsoni* Signoret was captured in Melbourne and confined with soil and seeds of *Acacia saligna* (Labill.) H. Wendl. During the following days the insect was observed feeding on and carrying the seeds and several seeds were found with the endosperm eaten out. The female produced at least six gregarious nymphs with bright orange-

red and black barred abdomens which sheltered beneath her body. The nymphs were first seen on 1 March. By 4 March the adult was dead along with two nymphs. Three of the progeny survived until 9 March but despite a definite increase in their size all were dead by 20 March.

Amongst the Hemiptera the habit of seed feeding is best developed in the Lygaeidae. The majority probably feed on ripe seed dropped to the ground (Woodward *et al.*, 1970). In the Cydnidae the only record of mature seed feeding appears to be that of McDonald (1968) who observed *Sehirus cinctus albonatus* Dallas feeding on *Stachys palustris* L. Woodward (1949) observed nymphs and adults of *Sehirus bicolor* (L.), a British species, feeding on young seed heads of *Ballota nigra* L. and Southwood (Southwood and Hine, 1950) saw the same species stem feeding from *Lamium album* L. These host plants belong to the Labiatae (Lamiaceae). My observations detailed above for *Adrisa* appear to be the first record of seed feeding on plants of the Mimosaceae (Woodward, 1983, pers. comm.).

The 18-24 day incubation period for *S. bicolor* eggs found by Southwood and Hine agrees with the outside limit established with the Melbourne female of *A. erichsoni*: if she deposited her egg mass soon after capture then a maximum period of 27 days elapsed before hatching. Female *Sehirus* seem to live for about one month after oviposition (Southwood and Hine, 1950), so the maximum 30 days recorded here for the single *Adrisa* female corresponds with the English record. Parental care is shown by several groups of the Pentatomoidea and nymphs of many species are gregarious in the first instar (Woodward *et al.*, 1970). Female Cydnidae protect their egg masses and newly hatched nymphs remain with the female for some 48 hours (Southwood and Hine, 1950). The observation of gregariousness in the nymphs of *Adrisa* and their protection by the female do not conflict with these generalities.

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